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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/852,917	05/11/2001	Satoru Yamaguchi	P 280368 ND-J060-US	4741

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HARNESS, DICKEY & PIERCE, P.L.C.  
P.O. BOX 828  
BLOOMFIELD HILLS, MI 48303

EXAMINER

LEYSON, JOSEPH S

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 02/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/852,917

Applicant(s)

YAMAGUCHI ET AL.

Examiner

Joseph Leyson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 11 May 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 May 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

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1. Figures 9 and 10 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.
2. The disclosure is objected to because of the following informalities: on p. 13, line 11, "at" should be changed to --that of--, and line 20, "an" should be changed to --can--, for proper spelling and/or proper idiomatic language.

Appropriate correction is required.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 is incorrect. The screw is built into the housing as understood from the instant specification. The examiner suggests in claim 1, lines 6-7, changing "screw extruder" to --housing--. In claim 1, line 8, "the forward end extrusion

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port side" should be changed to --a forward end extrusion port side--, for antecedent basis clarity.

In claim 3, line 3, "the outer diameter" should be changed to --an outer diameter--, and line 4, "the length" should be changed to --a length--, for antecedent basis clarity.

In claim 4, line 3, "the back end ridge" should be changed to --a back end ridge--, and line 4, "the front end ridge" should be changed to --a front end ridge--, for antecedent basis clarity.

In claim 5, line 3, "the ridge of the extended portion" should be changed to --a ridge of the extended portion--, and line 4, "the ridge of the pressure portion" should be changed to --a ridge of the pressure portion--, for antecedent basis clarity.

In claim 6, lines 3-4, "the forward end" should be changed to --a forward end--, and line 4, "the back end" should be changed to --a back end--, for antecedent basis clarity.

In claim 7, line 4, "the distance" should be changed to --a distance--, and line 5, "the forward end" should be changed to --a forward end--, for antecedent basis clarity.

In claim 8, line 3, "the side" should be changed to --a side--, and lines 4-5, "the ceramic honeycomb structure" should be changed to --a ceramic honeycomb structure--, for antecedent

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basis clarity. Claim 8, line 5, recites "can be" which is indefinite as to its metes and bounds and should be changed to --is-- for clarity.

In claim 9, line 3, "the ceramic material" should be changed to --a ceramic material--, and lines 4-5, "the forward end extrusion port" should be changed to --a forward end extrusion port--, for antecedent basis clarity.

In claim 11, line 3, "the outer diameter" should be changed to --an outer diameter--, and line 4, "the length" should be changed to --a length--, for antecedent basis clarity.

In claim 12, line 3, "the back end ridge" should be changed to --a back end ridge--, and line 4, "the front end ridge" should be changed to --a front end ridge--, for antecedent basis clarity.

In claim 13, line 3, "the ridge of the extended portion" should be changed to --a ridge of the extended portion--, and line 4, "the ridge of the pressure portion" should be changed to --a ridge of the pressure portion--, for antecedent basis clarity.

In claim 14, line 4, "the distance" should be changed to --a distance--, and line 5, "the forward end" should be changed to --a forward end--, for antecedent basis clarity.

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In claim 15, line 3, "the side" should be changed to --a side--, and lines 4-5, "the ceramic honeycomb structure" should be changed to --a ceramic honeycomb structure--, for antecedent basis clarity.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary.

Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 1-7 and 9-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato(-027) in view of Meyer(-969).

Sato(-027) discloses an extrusion molding apparatus including a housing (see figures) and a screw extruder including screws 6A, 6B built into the housing, a material being introduced into the housing and extruded by way of a forward end extrusion port by rotating the screws 6A, 6B, a filter for filtering the material is arranged at the forward end extrusion

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port, and a mold 5 for molding product. However, Sato(-027) doesn't disclose the screws including a pressure portion, an extended portion and a kneading portion as recited by the instant claims.

Meyer(-969: fig. 2) discloses a screw including a pressure portion 25, an extended portion 26 arranged on a forward end extrusion port side of the pressure portion, and a kneading portion 38', 39, 41 arranged between the pressure portion 25 and the extended portion 26 for kneading the material. The pressure portion 25 has the feed rate per revolution progressively decreased toward the forward end extrusion port, while the extended portion 26 has the feed rate per revolution progressively increased toward the forward end extrusion port. The relation  $L/R$  is greater than or equal to 1.0 holds, where  $R$  is the outer diameter of the extended portion 26 and  $L$  the length thereof (see fig. 2). The feed rate per revolution of the kneading portion 38', 39, 41 is smaller than that of a forward end of the pressure portion 25 and a back end of the extended portion 26. The screws achieve plastication and/or melting with low length-to-diameter ratios (col. 3, lines 37-62).

It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to modify the screws of

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Sato(-027) with screws of Meyer(-969) because such screws would enable plastication and/or melting of the material with low length-to-diameter ratios. As to the ratios of feed rate and to the dimensions of the apparatus as recited by the respective instant claims, such specific operation parameters and dimensions would have been found due to routine engineering in finding operable or optimum values for such parameters and dimensions. It is not inventive to discover the optimum or workable ranges by routine experimentation, In re Aller, 105 USPQ 233.

7. Claims 8 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sato(-027) in view of Meyer(-969) as applied to claims 1-7 and 9-14 above, and further in view of Murata et al.(-227).

Murata et al.(-227) disclose a mold 10 for molding a honeycomb structure. It would have been obvious to one of ordinary skill in the art, at the time the invention was made, to further modify the apparatus with the mold of Murata et al.(-227) because such a modification would enable a honeycomb structure to be produced.

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Stansfield(-



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804), Takubo(-666), Baba et al.(-120) and Higashijima(-586) are cited as of interest.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Leyson whose telephone number is (703) 308-2647. The examiner can normally be reached on M-F(8:30-6:00) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda Walker can be reached on (703) 308-0457. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



j1  
February 10, 2003



**JAMES P. MACKEY  
PRIMARY EXAMINER**

2/10/03